

Goldman Sachs Pathfinder Index

As an investor, when planning for the future, you want to see your investments grow consistently over time, and you also want to control risk and limit potential losses. As the financial environment evolves, it is also important to adapt to market changes in a timely manner. Achieving these goals can often be challenging. That is why Goldman Sachs has developed the Goldman Sachs Pathfinder Index, which tries to provide a solution to this challenging question faced by investors.

The Goldman Sachs Pathfinder Index is designed to provide exposure to a dynamic combination of U.S. Equities and U.S. Government Bonds. For U.S. Equities, the index provides exposure to a basket of 9 eligible ETFs comprised of stocks in various U.S. sectors; and for U.S. Government Bonds, the index provides exposure to 10-Year and 2- Year U.S. Treasury futures. Like all indices, the Goldman Sachs Pathfinder Index carries some risks and considerations you should know about and that will be discussed later.

The GS Pathfinder Index uses a rules-based strategy. Here is how it works:

- First, for U.S. Equities, every month the strategy seeks a low volatility basket of 9 eligible U.S. sector ETFs (the “Equity Basket”) subject to certain weight constraints.
- Second, for U.S. Government bonds, the strategy employs a fixed income momentum signal on a daily basis to determine the target U.S. Government Bond asset; either 10-Year or 2- Year U.S. Treasury futures. The goal is to mitigate the impact when 10- Year U.S. Treasury exhibits negative momentum under certain market conditions. One example is when interest rates keep rising. The strategy selects 10- Year U.S. Treasury as the target U.S. Government Bond asset if it exhibits positive momentum or is flat; otherwise, it shifts to 2- Year U.S. Treasury futures.
- After these two steps, the strategy systematically adjusts the allocation between the Equity Basket and the target U.S. Government Bond asset on a daily basis under the strategy’s assumption that risk-adjusted returns of equities and fixed income may be comparable and volatility may serve as a proxy for expected return. The allocation is determined by rules using the volatility of each of the

Equity Basket, Bond asset and the combined portfolio of the assets, targeting an annualized volatility level of 15%, subject to a 400% maximum leverage cap on the combined weight and other constraints. Rebalancing between asset classes aims to help drive consistent returns, while the volatility target aims to help stabilize returns and mitigate potential losses over time. Any allocations less than 100% will be allocated to a cash position which will earn no return.

- Additionally, the strategy has a built-in return cap mechanism to cap the month-over-month return at 4%. In order to attempt to smooth the impact of the cap, the returns of the GS Pathfinder Index are based on the equally weighted returns of two versions of the strategy. Each version is subject to a month-over-month return cap of 4.00%, although they measure returns by using different reference points during the month, specifically before the middle and end of the month.

In summary, the GS Pathfinder Index utilizes innovative techniques to

- help provide exposure to a diversified portfolio of U.S. Equities and U.S. Government bonds to potentially deliver stable returns
- select the target U.S. Government Bond asset to potentially mitigate adverse effects of certain market conditions
- potentially control the risk level by adjusting the asset allocation daily

Take control of your financial journey by considering whether the GS Pathfinder Index is the right fit for you. The GS Pathfinder Index has the potential to provide consistent returns, performance stability, and adapt to market changes timely that you may face along the way, subject to certain risks which we will discuss.

Speak to a financial professional today to learn more about whether the GS Pathfinder Index is an appropriate option for you.

Risk Factors & Considerations:

Like all financial strategies, the GS Pathfinder Index carries some risks and considerations you should know about.

First, it's an excess return index. That means the dividends are reinvested, and the cost of funding, at the overnight Federal Funds rate, is deducted from it. There's also an index deduction rate of 50 basis points per unit of leverage per year, which can be as high as 2% per year if the combined weight reaches the 400% cap.

Second, the strategy relies on recent market data when it creates the portfolio. But market behavior changes, so it may not always produce the optimal combination of assets, which could lower returns.

Third, the actual volatility of a particular portfolio before the additional return cap mechanism may be different from the 15% target. And portfolios with lower volatility could produce lower returns.

Fourth, the index includes a return cap mechanism.

The strategy is calculated using a series of fixed rules. While the methodology was designed by Goldman Sachs, it's not actively managed by the firm, and discretionary decisions are employed only in limited circumstances set forth in the index methodology.

These are just some of the risk associated with the Goldman Sachs Pathfinder Index. For additional information, please visit the Goldman Sachs Pathfinder Index website.

Pathfinder Index - Legal Disclaimers

Goldman Sachs and its third party data providers make no representation or warranty, express or implied, regarding the ability of the Goldman Sachs Pathfinder Index to perform as intended or the merit (if any) of obtaining exposure to the Goldman Sachs Pathfinder Index. GOLDMAN SACHS DOES NOT GUARANTEE THE ACCURACY, TIMELINESS, ADEQUACY AND/OR COMPLETENESS OF GOLDMAN SACHS PATHFINDER INDEX, THE INDEX VALUES OR OF THE METHODOLOGY UNDERLYING THE INDEX OR THE CALCULATION OF THE INDEX. GOLDMAN SACHS EXPRESSLY DISCLAIMS ALL LIABILITY FOR ANY SPECIAL, PUNITIVE, INDIRECT OR CONSEQUENTIAL DAMAGE EVEN IF NOTIFIED OF THE POSSIBILITY OF SUCH DAMAGES.

CME GROUP MARKET DATA IS USED UNDER LICENSE AS A SOURCE OF INFORMATION FOR THE GOLDMAN SACHS PATHFINDER INDEX. CME GROUP HAS

NO OTHER CONNECTION TO GOLDMAN SACHS INDEXES, PRODUCTS AND SERVICES AND DOES NOT SPONSOR, ENDORSE, RECOMMEND OR PROMOTE ANY GOLDMAN SACHS INDEX, PRODUCTS OR SERVICES. CME GROUP HAS NO OBLIGATION OR LIABILITY IN CONNECTION WITH THE GOLDMAN SACHS INDEX, PRODUCTS AND SERVICES. CME GROUP DOES NOT GUARANTEE THE ACCURACY AND/OR THE COMPLETENESS OF ANY MARKET DATA LICENSED TO GOLDMAN SACHS AND SHALL NOT HAVE ANY LIABILITY FOR ANY ERRORS, OMISSIONS, OR INTERRUPTIONS THEREIN. THERE ARE NO THIRD-PARTY BENEFICIARIES OF ANY AGREEMENTS OR ARRANGEMENTS BETWEEN CME GROUP AND GOLDMAN SACHS.

“SPDR®” is a registered trademarks of Standard & Poor's Financial Services LLC (“S&P”). The Goldman Sachs Pathfinder Index is not sponsored, endorsed, sold or promoted by S&P or its affiliates, and S&P and its affiliates make no representation regarding the advisability of investing in the Goldman Sachs Pathfinder Index.

Financial products that are linked to or reference the Goldman Sachs Pathfinder Index are not sponsored, promoted, sold or supported in any other manner by Solactive AG (the "Calculation Agent") nor does the Calculation Agent offer any express or implicit guarantee or assurance either with regard to the results of using the Index and/or Index trade mark or the Index Price at any time or in any other respect. The Index is calculated and published by the Calculation Agent. The Calculation Agent uses its best efforts to ensure that the Index is calculated correctly. The Calculation Agent does not warrant the accuracy or completeness of any information contained herein. Irrespective of its obligations towards any issuer of a financial instrument linked to the index, the Calculation Agent has no obligation to point out errors in the Index to third parties including but not limited to investors and/or financial intermediaries of the financial instrument. The calculation and publication of the Index by the Calculation Agent for the purpose of use in connection with the financial instrument does not constitute a recommendation by the Calculation Agent to invest capital in said financial instrument nor does it in any way represent an assurance or opinion of the Calculation Agent with regard to any investment in this financial instrument. The Goldman Sachs Group, Inc. owns an indirect, non-controlling interest in the Calculation Agent.

Goldman Sachs does not warrant the accuracy or completeness of any information contained herein and provides no assurance that this information is, in fact, accurate. The information contained herein is subject to change without notice. Any representations,

projections and comparisons contained herein may not reflect the opinions of Goldman Sachs and may not be accurate either now or at a future date. Consequently, you should not rely on such representations, projections, comparisons or other opinions when selecting any investment product or making a recommendation to a customer. Current and future economic and other market events concerning an investment product or an index may cause the information provided herein to be incorrect. Past performance is not indicative of future results and should never be relied upon in making an investment decision or recommendation. Any investments or strategies referenced herein do not take into account the investment objectives, financial situation or particular needs of any specific person. Product suitability must be independently determined for each individual investor. Goldman Sachs explicitly disclaims any responsibility for product suitability or suitability determinations related to individual investors.

RIC is provided by Reuters: The RIC or Reuters Instrument Code set has been developed and maintained by Reuters and is the intellectual property of Reuters.

The Goldman Sachs Pathfinder Index is a rules-based strategy and aims to provide exposure to the underlying assets. The returns of the Goldman Sachs Pathfinder Index are based on the equally weighted returns of two sub-indices, which differ only in the timing of their monthly reset dates. Each sub-index is subject to a month-over-month return cap of 4.00%, although they measure returns by reference to reset dates that occur at different points during the month (the 14th and 27th of each month, respectively). As a result of the monthly return cap, the Index may substantially underperform an otherwise similar strategy without such feature or with a higher monthly return cap or with different reset dates. There is no guarantee that the strategy will not underperform some or all of the underlying assets. In particular, the Goldman Sachs Pathfinder Index may have a significant weight in one of those assets at the time of a sudden drop, or no exposure to one of those underlying assets at a time it has a strong performance. If less than 100% of the weight of the Goldman Sachs Pathfinder Index is allocated to the underlying assets, there will be an allocation to a hypothetical cash position that will earn no return.

Different strategies with a different set of underlying assets may significantly outperform the selected strategy. For parts of the backtesting period, the underlying assets have had strong performances. Backtested and past performance figures are not a reliable indicator or guarantee of future results.

The strategy is not actively managed. For further information and disclosure about the strategy, including in particular relevant risk factors, please refer to the related index methodology and transaction documentation.

The index was launched on August 7, 2020. Hypothetical performance from August 27, 2003 to August 6, 2020 is based on the historical levels of the eligible index components using the same methodology that is used to calculate the index (calculated by Goldman Sachs prior to 27Aug13, and calculated by the Calculation Agent Solactive thereafter).

Hypothetical performance prior to the launch of the index on August 7, 2020 refers to simulated performance data created by applying the index's calculation methodology and strategy to historical prices of the index components that comprise the index (calculated by Goldman Sachs prior to 27Aug13, and calculated by the Calculation Agent Solactive thereafter). Such simulated performance data has been produced by the retroactive application of a back-tested methodology, and may reflect a bias towards strategies that have performed well in the past. No future performance of the index can be predicted based on the simulated performance or the historical returns described herein.

All back-tested index values for periods prior to the launch date of an index are hypothetical, and they are provided "AS IS" for informational and educational purposes only. Back-tested performance is NOT an indicator of future actual results. There are limitations inherent in hypothetical results particularly that the performance results do not represent the results of actual trading using client assets, but were achieved by means of retroactive application of a back-tested model that was designed with the benefit of hindsight. The results reflect performance of a strategy not historically offered to investors and do NOT represent returns that any investor actually attained. Back-tested results are calculated by the retroactive application of an index methodology and a model constructed on the basis of historical data and based on assumptions integral to the model which may or may not be testable and are subject to losses.

Back-tested performance is developed with the benefit of hindsight and has inherent limitations. PAST HYPOTHETICAL PERFORMANCE IS NOT A GUARANTEE OF FUTURE RETURNS. Specifically, back-tested results do not reflect actual trading, or the effect of material economic and market factors on the decision making process. The market and economic conditions present during the time period of the back-tested results is not representative of all possible market and economic conditions and scenarios that have

occurred or will occur in the future. The macroeconomic risks of using the strategy in a different time period or the financial risk of executing trades in a live portfolio which include the potential market impact on security prices caused by buying or selling that could cause the model's buy or sell prices to differ from the frictionless trades of the back-tested model. There are numerous factors related to the specific products, or markets in general, which cannot be, and have not been accounted for in the preparation of the Index information set forth, all of which can affect actual performance. Since trades have not actually been executed, results may have under- or over-compensated for the impact, if any, of certain market factors, such as lack of liquidity, and may not reflect the impact that certain economic or market factors may have had on the decision-making process. Further, back-testing allows the security selection methodology to be adjusted until past returns are maximized. Actual performance may differ significantly from back-tested performance.

Performance information is shown net of 0.50% per annum deduction rate per unit of leverage, accruing daily (which could result in 2% per annum if the maximum leverage of 400% is realized), but there may be additional fees and costs that are separately applied to a financial product that references the index.

Goldman Sachs International sponsors the Index, but does not manage actual assets. Index returns do not reflect payment of any sales charges, management fees, performance fees, expenses or other transaction costs an investor will pay, if applicable, to purchase products linked to the underlying Index or that are intended to track the performance of the Index. The imposition of these fees and charges would cause actual and back-tested performance of any products purchased to be lower than the Index performance shown.

Financial products that are linked to or reference the Goldman Sachs Pathfinder Index are not sponsored, endorsed, sold, guaranteed, underwritten, distributed or promoted by Goldman, Sachs & Co. or any of its affiliates (including Goldman Sachs Asset Management, L.P.), with the exception of any endorsement, sales, distribution or promotion of a product that may occur through its affiliates that are licensed insurance agencies (excluding such affiliates, individually and collectively, "Goldman Sachs") or its third party data providers. Goldman Sachs and its third party data providers make no representation or warranty, express or implied, regarding the advisability of investing in financial products generally or in financial products that are linked to or reference the Goldman Sachs Pathfinder Index or in the investment strategy underlying any financial

products that is linked to or references the Goldman Sachs Pathfinder Index, particularly, the ability of the Goldman Sachs Pathfinder Index to perform as intended, the merit (if any) of obtaining exposure to the Goldman Sachs Pathfinder Index, or the suitability of purchasing or holding interests in a financial product that is linked to or references the Goldman Sachs Pathfinder Index. Goldman Sachs and its third party data providers do not have any obligation to take the needs of the holders of a financial product that is linked to or references the Goldman Sachs Pathfinder Index into consideration in determining, composing or calculating the Goldman Sachs Pathfinder Index.

GOLDMAN SACHS AND ITS THIRD PARTY DATA PROVIDER DO NOT GUARANTEE THE ACCURACY AND/OR COMPLETENESS OF THE GOLDMAN SACHS PATHFINDER INDEX DATA OR OF THE METHODOLOGY UNDERLYING THE GOLDMAN SACHS PATHFINDER INDEX, THE CALCULATION OF THE GOLDMAN SACHS PATHFINDER INDEX OR ANY DATA SUPPLIED BY IT FOR USE IN CONNECTION WITH A FINANCIAL PRODUCT THAT IS LINKED TO OR REFERENCES THE GOLDMAN SACHS PATHFINDER INDEX. GOLDMAN SACHS AND ITS THIRD PARTY DATA PROVIDERS EXPRESSLY DISCLAIM ALL LIABILITY FOR ANY SPECIAL, PUNITIVE, INDIRECT OR CONSEQUENTIAL DAMAGE EVEN IF NOTIFIED OF THE POSSIBILITY OF SUCH DAMAGES.

THIRD PARTY DATA IS USED UNDER LICENSE AS A SOURCE OF INFORMATION FOR THE GOLDMAN SACHS PATHFINDER INDEX. THIRD PARTY PROVIDER HAS NO OTHER CONNECTION TO GOLDMAN SACHS INDEXES AND SERVICES AND DOES NOT SPONSOR, ENDORSE, RECOMMEND OR PROMOTE ANY GOLDMAN SACHS INDEX OR SERVICES. THIRD PARTY PROVIDER HAS NO OBLIGATION OR LIABILITY IN CONNECTION WITH THE GOLDMAN SACHS INDEX AND SERVICES. THIRD PARTY PROVIDER DOES NOT GUARANTEE THE ACCURACY AND/OR THE COMPLETENESS OF ANY MARKET DATA LICENSED TO GOLDMAN SACHS AND SHALL NOT HAVE ANY LIABILITY FOR ANY ERRORS, OMISSIONS, OR INTERRUPTIONS THEREIN. THERE ARE NO THIRD-PARTY BENEFICIARIES OF ANY AGREEMENTS OR ARRANGEMENTS BETWEEN THIRD PARTY PROVIDER AND GOLDMAN SACHS.